

Rome Center
The Scientific Basis of Environmental Issues
ENVS101 A01
Spring 2026

Mondays, 9:00 a.m. - 12:00
p.m. Instructor:
S. Sepehr Moeini, PhD
email: [smoeini.@luc.edu](mailto:smoeini@luc.edu)

CLASS MEETINGS

Monday, 9:00 a.m. - 12:00 p.m., January 19 to April 20, 2026; final exam: April 27, 2026.

OFFICE HOURS

Monday 8:30–9:00 a.m. and 12:00 - 12:30 p.m., Faculty Office. Available throughout the week via email and, if necessary, Microsoft Teams.

CORE AREA SATISFIED

This is a foundational scientific course as part of the Core Curriculum at Loyola University of Chicago.

COURSE DESCRIPTION

This course explores the intricate relationship between the Earth's systems and human impact. Students will delve into the geosphere, hydrosphere, atmosphere, and biosphere, understanding their interconnections and the fundamental scientific principles that govern them. Through this course, you will learn to formulate hypotheses based on empirical evidence, analyze data to understand environmental phenomena, and apply concepts of energy and thermodynamics to ecological systems. Key biogeochemical cycles will be examined to appreciate their role in maintaining life on Earth. By the end of the semester, you will have a robust foundation in environmental science, equipped to think critically and scientifically about pressing environmental challenges.

LEARNING OUTCOMES

By the end of semester, students should be able to:

- 1) Exhibit knowledge of the nature of the four Earth systems.
- 2) Draw inferences from evidence, constructing testable and falsifiable hypotheses and analyzing data.
- 3) Understand the role of energy and thermodynamics in ecosystems.
- 4) Understand and describe important cycles in nature.

TEXTS

Christensen, N, Leege L. 2016. *The Environment & You*. Pearson. USA. 2nd Edition.

Students should have the textbook prior to the first session.

OTHER RESOURCES

Course materials (e.g., slides, selected scientific papers and assignments) will be provided via the Sakai learning management system, which can be accessed at: <https://sakai.luc.edu/>.

It is expected that students will access and submit assignments and other coursework via the Sakai system using their Loyola ID and password.

LIBRARY RESOURCES:

Anne Wittrick, Librarian, awittrick@luc.edu.

Phone: +39 06 35588341

<http://libraries.luc.edu/rome>; <http://www.luc.edu/rome/>.

ATTENDANCE POLICY

In accordance with the Rome Center mission to promote a higher level of academic rigor, and in compliance with full-time student visa status, all courses adhere to the following attendance policy.

Prompt attendance, preparation and active participation in course discussions are expected from every student and synonymous with academic success. Attendance is mandatory at every class meeting for each course. Lateness or leaving class early will impact the course grade at the professor's discretion. All absences, including medical absences, will be treated the same, unless they are documented long-term conditions or emergencies. Such situations will be evaluated case-by-case by the Academic Affairs office. For once-a-week classes such as this course:

- After 1 absence, a 2% final grade reduction will be applied for each missed class.
- Missing 3 classes or more will result in an automatic failure (F).

ASSESSMENT COMPONENTS

1. In-class Participation (including assignments) → 35%
2. Midterm Exam → 25%
3. Group Project → 10%
4. Final Exam → 30%

1. In-class participation and assignments (35%)

To succeed in this course, students need to actively participate in and contribute to the discussions; thus, maximum attendance to class sessions is a prerequisite. They should be prepared for each session by doing the readings assignments given to them beforehand and should demonstrate eagerness for the topics to be discussed. Additionally, students should provoke discussions and engage in the ones provoked by other classmates, while respecting the opinions of their peers.

In addition to reading assignments, there will be frequent quizzes, group exercises, and individual/group presentations.

2. Midterm Exam (25%)

The Midterm exam will cover the topics discussed during the first 5-6 sessions of the course. It will include a combination of multiple-choice questions, short answer questions, and essay questions.

3. Group Project (10%)

Students will be divided into groups of three or four peers. Each group will work on a research project regarding an environmental issue which requires literature review, forming hypothesis, data collection and analysis, and drawing conclusions. The project work should be reported by presentation and paper. The presentation will be followed by the instructor's and other students' questions.

4. Final Exam (30%)

The final exam will be based on the topics covered during the sessions of the course. The exam will takeplace at 9:00 a.m., on Monday December 8, 2025. The structure of the Final Exam will be like the Midterm Exam.

GRADING

Final letter grades will be calculated as follows, based on the cumulative percentage from the tasks described above:

A → 94-100 A⁻ → 90-93

B⁺ → 87-89 B → 84-86 B⁻ → 80-83

C⁺ → 77-79 C → 74-76 C⁻ → 70-73

D⁺ → 67-69 D → 60-66

F → ≤ 59

ACADEMIC INTEGRITY

Plagiarism and other forms of academic misconduct are unacceptable at the Rome Center and will be dealt with in accordance with Loyola University Chicago's guidelines. Please familiarize yourself with Loyola's standards here: <https://catalog.luc.edu/academic-standards-regulations/undergraduate/>. You are responsible for complying with the LUC University Catalog.

LATE OR MISSED ASSIGNMENTS & EXAMS

Late or missed assignments will not be accepted for grading without the authorization of the instructor. As per the JFRC academic policies, students who miss any scheduled exam or quiz, including a final exam at the assigned hours will not be permitted to sit for a make-up examination without approval of the Associate Dean of Academic Affairs. Permission is given rarely and only for grave reasons; travel is not considered a grave reason. Make-up exams will only be given for documented absences.

ACCESSIBILITY ACCOMMODATIONS

Students registered with the Student Accessibility Center (SAC) requiring academic accommodations should contact the Academic Affairs office at the John Felice Rome Center during the first week of classes.

STATEMENT ON TITLE IX

The Rome Center follows Loyola's [Comprehensive Policy and Procedures for Addressing Discrimination, Sexual Misconduct, Retaliation](#) and will comply with those as indicated and instructed.

COURSE SCHEDULE

The following table outlines the weekly schedule for this course, including topics to be covered, key readings, and exam dates. Please note that the schedule may be adjusted as needed to accommodate class progress or unforeseen circumstances.

Session #	Topics	Chapter/Reference	Date
1	Course introduction – Basic definitions – UN SDGs	Chapter 1, SDGs Guide	Jan 19, 2026
2	Science – Scientific method – Critical thinking Citrus Harvesting event	Chapter 1, Paper 1	Jan 26, 2026
3	Chemistry – Energy – Thermodynamics	Chapter 3	Feb 2, 2026
4	Geosphere – Biogeochemical cycles – Rock cycle	Chapter 3	Feb 9, 2026
5	Atmosphere – Hydrosphere – Water cycle	Chapter 3, 11	Feb 16, 2026
6	Weather and climate – Earth’s energy budget	Chapter 3	Feb 23, 2026
7	Review and Midterm Exam		Mar 2, 2026
Spring SEMESTER BREAK			(6 – 15 Mar)
8	Biosphere; Life – Cell – Population of species	Chapter 4	Mar 16, 2026
9	Ecological communities – Trophic levels – Carbon cycle	Chapter 6	Fri , Mar 20, 2026
10	Species biodiversity – Nitrogen and phosphorous cycles	Chapter 8, 12	Mar 23, 2026
11	Landscape biodiversity	Paper 2 , Paper 3	Mar 30, 2026
Spring SEMESTER BREAK			(3 – 6 Apr)
12	Climate Change – Project Presentations	Chapter 9	Apr 13, 2026
13	Local Garden Visit/Course Review	Real-world observation of ecosystem concepts	Apr 20, 2026
14	Final Exam		Apr 27, 2026